

State telecommunications management manual

State of California
Department of General Services

Telecommunications Division
Sacramento, California

Category:

**Telecommunications
Systems & Services**

Chapter Title:

**Radio and
Microwave Services**

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TD Services

POLICY

Radio and microwave engineering

RADIO

The TD provides engineering services for public safety radio and telecommunications systems which include: planning, design, specifications and standards, procurement and special engineering studies as mentioned within the government codes placed in SAM under Statutory Authority for telecommunications.

This policy maintains a uniformity of standards for state telecommunications.

MICROWAVE

The TD acquires, installs, equips, maintains and operates all new or replacement microwave communications systems operated by the state, except microwave equipment used exclusively for traffic signal and signal control, traffic metering and roadway surveillance systems.

DGS mandated its Telecommunications Division to implement Government Code section 14931.1. This statutory authority directs the efficiency of spectrum and site usage for state agency telecommunications systems.

Radio and microwave transmitter licensing

All radio transmitting devices must be licensed by the Federal Communications Commission (FCC) before being put into service. The TD performs all processes required to obtain the licenses for all public safety radio equipment owned or operated by the state. This includes the frequency coordination with other users required before application can be made to the FCC.

The FCC requires a single point of contact for the entire state. The statewide transmission of public safety messages and administrative traffic is subject to FCC rules and regulations.

Radio and microwave installation, modification and maintenance

Any installation, modification or maintenance, including the programming of radio frequencies and microwave transmitting equipment licensed to the state, must be done by or with the technical approval of the TD. Exceptions are found in provisions created in the government code.

Agencies may get support from the TD for all phases of the development, enhancement, and maintenance of public safety radio and telecommunications systems owned by the state. Technical approval is given when the work is being done by a qualified contract maintenance organization which:

- a. Meets state's standards for technician certification and experience.
- b. Possesses the necessary test equipment and secondary standards for frequency and modulation measurements.

INTRODUCTION

The TD handles radio and microwave engineering services, installation and modification, maintenance, licensing and purchasing for state agencies. The following sections discuss ordering procedures for new and existing service requests. The Agency Telecommunications Representative (ATR) initiates service requests by submitting a Telecommunications Work Authorization request form, COM-207 to their assigned Public Safety Radio engineering section. Contact the Client Engineering Support Section for necessary forms and rate information.

RADIO AND MICROWAVE ENGINEERING

State agencies may contract with the TD for engineering services. Because microwave transmission is a form of radio transmission, the TD has placed responsibility for the microwave system under the Technical Services and Engineering Section. In order to request new radio and microwave engineering services, contact the Client Engineering Support Section representative to discuss the agency's engineering needs, any fiscal constraints and the desired completion date.

CALIFORNIA MULTIPLE AGENCY SYSTEM (CMARS)

The TD established a system for agencies which cannot afford the cost of its own 800 Mhz radio services. CMARS allows agencies to share access to radio relay stations located throughout the state. With CMARS, an agency must purchase its own equipment which includes base stations and mobile or personal portable radios and pay a monthly flat rate per unit of equipment to use the relay stations. The engineering section of your agency should advise the ATR of the possibility of CMARS participation and viable alternatives.

RADIO AND MICROWAVE TRANSMITTER LICENSING

State agencies requiring radio and microwave transmitter licensing must submit the Radio License Application COM-229A to the TD, Client Engineering Support Section. Contact the Client Engineering Support Section promptly for this form, since completion of the licensing process takes several months.

RADIO AND MICROWAVE INSTALLATION, MODIFICATION AND MAINTENANCE

TD technicians provide these services under the direction of the TD Technical Services and Engineering Section. The TD has radio technicians located in shops throughout the state who perform these services for state-owned radio systems and equipment. For new radio and microwave installation and modification services, call the Client Engineering Support Section for a COM-207 form. The TD also requires the annual TD-208B, New/Additional Microwave Service Report form when ordering new or additional microwave services. In this situation, the TD estimates the cost, includes the appropriate spending authority in its budget and recommends that the agency increase its operating budget accordingly.

Radio and microwave maintenance service to state agencies includes the following: the parts and labor costs necessary to keep equipment in the proper operating condition and 24 hour repair service through service shops located statewide. Maintenance technicians at these area shops will repair and maintain all equipment installed by the TD. If the equipment was installed by a contractor, determine if it is still under warranty or a maintenance contract. If so, contact that vendor. If not, contact the nearest TD radio maintenance shop for service and rates. See the *Telecommunications Telephone Directory* to locate these area shops. Call the Client Engineering Support Section to order this directory.

GREEN PHONES

California's Public Safety Telephone System uses the state's microwave network to transmit telephone calls on either single or multiline sets. These lines allow communications to continue in public safety agencies even when the public network is inoperable. Public safety agencies such as the California Highway Patrol (CHP), Forestry and Fire Protection, Office of Emergency Services, CALTRANS and the TD field office have telephone lines connected to this system. If a green phone is found inoperable at any time, contact the nearest TD radio maintenance shop *nearest the defective green phone*. See the *Telecommunications Telephone Directory* to locate these area shops.

9-1-1 SYSTEM

The 9-1-1 system requires Public Safety Answering Points (PSAPS) in locations throughout the state, which connect to emergency service providers such as law enforcement, fire fighters and emergency medical services. The TD's Emergency Telephone Services Section oversees 9-1-1 programs statewide. ATR's who have duties associated with a PSAP or any other part of the emergency telephone system, should already have the TD 9-1-1 Operations Manual. If not, request one in writing and send to the TD, Attn: Emergency Telephone Services, 9-1-1 Program.

Before requesting installation services for this telephone system from the TD, the 9-1-1 equipment and telephones ***must*** be compatible. 9-1-1 pays for installation for lines which are used for its service. For more information contact the TD's Telephone and Network Services, Emergency Telephone Services, Program Information.

See Chapter 0101.0, TD Reference Guide, for all TD contact information referenced within this chapter.